

1/6 TRM

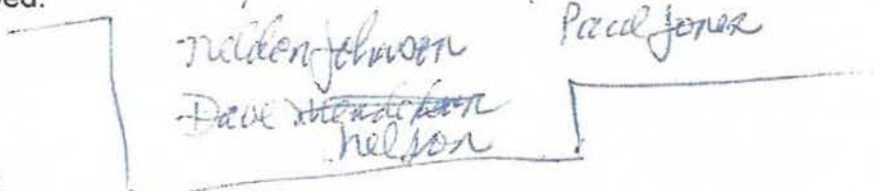
List of issues to address during visit to the Delta Dish Plant.

Date: January 23 - 25, 2016

At the Delta Site on January 24th

Traveling Companions: Skyler Bradbury, IRS Atty. *Daniel Socolow*
Site Personnel Interviewed: *Kate Hill, Kevin W. Hill, Winston Townsend*

overview



The Site:

- Total acreage at the site
- Sketch of the site layout
- Collector field
- Distribution system
- Offices
- Turbine-generator block
- Thermal energy storage
- Substation location

a lot of options

- Concentrated PV
-
-
-
-

*pipe size?
diagram*

General Comments/Plans:

- Current acreage
- Expansion
- Technology changes/upgrades
- Impression of the site

*prototype
component tests?
Data*



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2/6 TRM

Solar Concentrator:

- Review the design
- Dimensions of the 4 plastic lenses
- Transmissivity
- Material of the lenses
- Tracking
- Accuracy az and el
- Materials and condition
- Solar Power from one dish
- Losses/efficiency

#11
 tolerance
 acrylic lens

83% Frame
 theoretical
 To recover dia
 measured
 Include secondary?

Secondary Concentrator:

- Made of what material
- Diameters inlet/outlet
- Losses
- Condition

optical surface
 How hot do they get?
 no secondary

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3/16 TRM

Receivers
Dimensions
Location
Heat exchanger design
Losses
Condition

*90%
how hot is
receivers
during normal
operation?*

*flow rate
temperatures
actual rate?
same look as dich?
Dich has no piping loss.*

*black nickel
circular flow*

7.5 kw

Storage

Heat transfer system
Materials
Pumps and sizes
Working fluid
Insulation
Temperature of the fluid
Losses in transit
Condition

*nickel
salt
heat exchanger*

*T's
flow rates
length of piping
diameter*

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4/6 TRM

Heat Exchanger

- Working fluids
- Who designed
- Design specifications
- Pump
- Redundancy
- Condition

Temperature
 flow rates
 Storage material?
 Tracer?

2500

Melvin Salt
 Heat Exchanger

cool feed

Turbine

- Who designed
- Power rating
- How determined
- Recuperation
- Tested
- Efficiency at load
- Condition

What load
 in full
 condition
 claim is 43% test?
 checked with generator?

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Generator

Nameplate rating

How sized

Output voltage and current

Condition

7.5 kw
on generator at 5/6 TRM
Shop similar one
at the site

Sub station

Who is off taker

Contract

No one
at this point
negotiating

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Manufacturing Facility
Tooling
Accuracies
Through put
Scale

6/6 TRM

1 tower / hour w/ 20 people

32 kW / fish

4.5 / axis per min

overhead

15% - 18%

EPC and O&M Contractors
EPC
O&M

EPC
O&M
providers

TRM

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